**Amendments to the Drawings:**

The attached sheets of drawings include changes to Fig. 1-6. These sheets, which includes Fig. 1-6, replaces the original sheets including Fig. 1-6.

Attachment: Replacement Sheets

## REMARKS/ARGUMENTS

Favorable consideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-30 are pending in the application. Claims 1, 11, 18, 25, 26, 27, 28, 29 and 30 have been amended.

In the outstanding Office Action, the drawings were objected to; Claims 25-29 were objected to as being mis-numbered; Claims 1-29 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-26 of co-pending Application No. 09/608,489 filed on June 30, 2000; Claims 1-6, 10-16 and 18-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lahat et al. (U.S. Patent No. 6,233,074 hereafter Lahat) in view of Chin et al. (U.S. Patent No. 6,314,110 hereafter Chin); and Claims 7-9 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lahat in view of Chin as applied to part 7 of this Office Action, and further in view of Graves et al. (U.S. Patent No. 6,229,788).

In response to the drawings objection, Applicant submits formal drawings and amends the specification accordingly. In response the mis-numbered claims objection, Applicant submits renumbered claims in accordance with 37 CFR 1.126. In response to the provisional obvious type double patenting rejection, Applicant defers until one of the applications subject to the rejection has been allowed. In response to the rejection of Claims 1-6, 10-16, and 18-30 under 35 U.S.C. § 103(a) as being unpatentable over Lahat in view of Chin, Applicant has amended the respective independent Claims.

The independent Claims 1, 11, 18, and 25, have been similarly amended to recite "data packets which flow in a single direction." Further, Claim 1 has been amended to recite, *inter alia*, the "quality of service is maintained by ensuring that the data rates of the uni-directional QoS flows are left intact." In this manner, Claims 11, 18, and 28 have also been

amended to recite alternative method and apparatus embodiments of Claim 1. These amendments to Claims 1, 11, 18 and 25 have support in the original Claim 1 and the specification, page 7, line 1. Claim 29 is amended to correctly reflect dependency from Claim 28. Claims 26-30 have been amended in order to reflect the proper numerical order. In addition, Claims 1, 3, 6, 11, 20, and 29 have deleted the term 'guarantee' or replaced it with 'maintain' for purposes of clarification and consistency. Support for this amendment is found in the specification, page 7, line 2. No new matter is added.

Briefly recapitulating, Claim 1 recites *inter alia* a plurality of metropolitan packet switches coupled to a fiber optic loop with data packets which flow in a single direction, the metropolitan packet switches being comprised of an I/O port and a processor coupled to the I/O port which separately regulates data packets transmitted over the fiber optic loop, wherein quality of service is maintained by ensuring that the data rate of a uni-directional QoS flow is left intact. Quality of service refers to the guarantee of providing timely delivery of information, controlling bandwidth per user, and setting priorities for selected traffic. For real-time applications such as video on demand, HDTV, voice communications, etc., dropped packets or late-arriving packets can seriously disrupt or even destroy performance. There exist other mechanisms which have been developed to provide QoS functionality. However, these mechanisms are all extremely expensive to implement. By way of preference, the recitation of Claim 1 meets these networking needs.

Lahat describes a ring network utilizing wave division multiplexing, which eliminates the need for complex processing at the switches by managing data connections according to optical channels with different wavelengths. And, as noted in the Official Action, Lahat does not describe QoS functionality. Chin describes statistically multiplexing of a **bi-directional** ring to achieve a QoS functionality. However, Chin does not describe a QoS functionality where the data rates of **uni-directional** QoS flows are left intact.

The presently amended claims describe a QoS functionality where the data rates of the "**uni-directional** QoS flows" are left intact. As none of the cited prior art, individually or in combination, disclose or suggest all the elements of the presently amended independent Claims 1, 11, 18, and 25, Applicants submit the inventions defined by Claims 1, 11, 18, and 25, and all claims depending therefrom, are not rendered obvious by the asserted prior art for at least the reasons stated above.[1]

In addition, for the following reasons, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to combine Lahat with Chin and that such a combination is achieved through impermissible hindsight reconstruction of Applicant's invention.

The specification of the present invention describes how an advantage of the switches of a metropolitan area transport ring is that they can "be coupled to a dense wavelength division multiplexed (DWDM) fiber backbone . . .".[2] In this way, the QoS switches described by the inventor can be used in conjunction with traditional Internet schemes employing standard routers such as the wavelength division multiplexing scheme of Lahat.[3] Likewise, the Official Action reiterates the inventor's disclosure by combining the wave division multiplexing of Lahat with the statistical multiplexing switches of Chin. However, a rejection which "takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight" is improper. *In re Dembiczak,* 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.Cir.1999).

Furthermore, in contrast to the present inventor's disclosure, Lahat teaches that an advantage of wave division multiplexing is that connections can be established "without

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[1] MPEP § 2142 "...the prior art reference (or references when combined) must teach or suggest **all** the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."
[2] Specification, page 10, lines 14-15.
[3] Specification, page 10, lines 18-20.

using complex processing by the switches."[4] In other words, Lahat teaches away from combining the invention of Lahat with the complex processing required by the statistical multiplexing switches of Chin. In particular, statistical multiplexing of a bi-directional ring, as described by Chin, requires complex processing on four quantities: local transmit usage, downstream usage, allocated usage, and forward rate.[5] Consequently, it would not be obvious to one of ordinary skill in the art to combine Lahat with Chin. Thus, for another reason Applicants submit the combination of Chin and Lahat is improper.

Furthermore, Applicants submit there is no teaching, suggestion, or motivation, either explicitly or implicitly, in either reference to combine the wavelength division multiplexing of Lahat with the statistical multiplexing of Chin to arrive at Applicants' inventions recited in Claims 1, 11, 18, and 25. Thus, Applicants submit it is only through an impermissible hindsight reconstruction of Applicants' invention that the rejection of Claims 1, 11, 18, and 25 can be understood.[6]

[4] Lahat col. 12, lines 57-58. See also Lahat col. 11, lines 57-58, stating "Another advantage is that connections between different switches do not require processing by the network backbone."
[5] Chin, col. 5, line 45, through col. 7.
[6] MPEP § 2143.01 "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge of one of ordinary skill in the art."

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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